

Claims

- 1. A method of obtaining a desired protein from a transgenic host organism, wherein the expression of the gene coding for this protein is not made until the host organism has been harvested, characterized in that
 - (a) the transgenic host organism contains the gene coding for the desired protein such that it is only expressed in the presence of a chemical inductor; and
 - (b) contacting with the inductor takes place via the phase surrounding the host organism after the host organism has been harvested.
- The method according to claim 1, wherein the phase is a gas phase.
- 3. The method according to claim 1, wherein the phase is a liquid phase.
- 4. The method according to claim 2, wherein step (b) comprises modification of the gas phase surrounding the host organism, atomization of a solution (suspension) of an inductor or flooding with a volatile inductor.
- 5. The method according to claim 3, wherein step (b) comprises an infection with a virus suspension.
- 6. The method according to any of claims 1 to 5, wherein the gene coding for the desired protein is functionally linked with an inducible promoter.
- 7. The method according to any of claims 2, 4 and 6, wherein the modification of the gas phase is an deoxidation and the promoter is a promoter inactive under aerobic conditions.
- 8. The method according to claim 7, wherein the promoter is the GapC4 promoter.

- The method according to any of claims 2, 4 and 6, wherein in step (b) contacting with the chemical inductor takes place via atomization of the inductor RH5992.
- 10. The method according to any of claims 1 to 3, wherein the \ expression of the gene coding for the desired protein is induced by compensating the functional inhibition of the transcription and/or translation.
- A method according to claim 10, wherein the gene coding 11. for the desired protein is functionally linked with a promoter, so that between the promoter and the gene a nucleic acid is inserted which is characterized in that
 - it prevents the transcription and/or translation of the gene and
 - (b) it can be excised after the induction, results in the expression of the gene.
- 12. The method according to claim 11, wherein the nucleic acid is a nucleic acid which can be excised by an inducible recombinase.
- 13. The method according to claim 12, wherein the excisable nucleic acid and the recombinase are constituents of the recombinase-LBD system.
- The method according to any of claims 1 to 3, wherein 14. the gene coding for the desired protein is expressed by compensating the effect of the transcriptional, posttranscriptional, translational or post-translation repressor.
- The method according to any of claims 1 to 14, wherein 15. the method is a combination of at least two of the methods defined in claims 6, 10, 11 and 14.
- 16. The method according to any of claims 1 to 15, wherein the transgenic organism is a useful plant.



- 17. The method according to claim 16, wherein the useful plant is wheat, barley, corn, sugar beet, sugarcane, potato, a brassicaceae, a leguminous plant or tobacco.
- 18. A host organism according to claim 1, which contains the gene coding for the desired protein such that it is only expressed in the presence of a chemical inductor.